

The Implementation of Team Based Learning (TBL) and Generic Competency Among Teacher's Candidates in Accounting: A Study Case From Universitas Negeri Medan

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Abstract. The aim of the research is to examine the influence of the implementation of TBL on generic competency among students in the Accounting Education department of Faculty of Economics at Universitas Negeri Medan (UNIMED). The theoretical background of this study lies in the perspective of Social Constructivism Theory (SCT) highlighting the contribution of implementing TBL to enhance the communication-related skill (required when students engage in groups and between peers), problem solving-related skill and critical thinking skill that beneficial for the candidates in facing the real condition of teaching environment once they become a professional teacher in future. The sample of study consisted of 162 students as respondents using questionnaires as the research instrument. The data was analyzed using the linear regression analysis indicating that there is a significant effect of the implementation of TBL on the generic competency among teacher's candidates from Accounting Education Department with t-count is greater than t-table and significance score is lower than significance level ($0.00 < 0.05$). Even though the coefficient determination (R^2) score indicates a quite upper low level (37.87%), it underlines the importance of implementing TBL on equipping teacher' candidates with generic skills for conducting their educators service in future.

Keywords: TBL, Generic Competency, Teacher Candidates, Accounting Education

1 Introduction

Higher education should be able to organize a quality learning process that not only develops the ability of students to be limited to one cognitive aspect, while other aspects especially skills are rarely touched. This has become one of the causes of the inability of tertiary education graduates to compete in the world of work or allow graduates to work in fields that are not in accordance with their educational qualifications. In accordance with the 2013 Indonesian National Qualification Framework (KKNI), that tertiary graduates must be able to apply their fields of expertise and utilize science and technology in their fields in problem solving and be able to adapt to the situation at hand, master the theoretical concepts of certain knowledge areas in general and the theoretical concepts of special sections in the field of knowledge in depth, as well as being able to formulate procedural problem solving. Referring to what is written in the 2013 KKNI in the implementation of learning in higher

education, especially the aspects of skills become one of the main indicators of the success of an educational process.

Universities are expected to be able to be trained and developed students' various skills during the learning process, especially the generic skills. Generic skills become one of the basic assets for students, both while attending lectures and when they are in the workforce. According to Kamsah [1], generic skills are employability skills that are used to apply knowledge. This skill crosses all fields of work in the horizontal direction and crosses all levels in the vertical direction. This definition is in line with that proposed by the National Skill Task Force [2], that generic skills are skills that cross a number of different jobs. Kearns [3] defines generic skills as skills and attributes for life and Yeung et al. [3] stated that generic skills are very useful for continuing education and career success. From the various understandings given by some experts it can be concluded that generic skills are skills needed for various fields of work and life.

A high cumulative grade performance average (CGPA) – known in local term as *Indeks Prestasi Kumulatif* or abbreviated as IPK - at this time cannot be used as the main indicator of graduates of a tertiary institution to be able to compete in the world of work. Irma [4] reports that the CPI ranks only 17th in indicators and abilities that reflect a person's quality. Other factors, for example the ability to communicate, honesty and integrity, the ability to cooperate, analytical power, leadership, etc. play an important role in the success of a person in the workplace. From the survey results it can be concluded that the world of work does not only require prospective workers who only have cognitive abilities but rather requires prospective workers who are able to apply their cognitive abilities in various forms of skills. The intended skills are generic/soft skills as well as the employability skills.

Medan State University (UNIMED) is one of the state universities in North Sumatra Province in Indonesia. At present UNIMED has implemented the KKNi curriculum for each class except for the class of 2015. But this also applies to students of the class of 2015 in the accounting education program. With the KKNi curriculum not being implemented for the class of 2015, the task load is relatively not as complex as the students in the class of 2016. Here the researchers take the population of 2015 accounting education students who have not implemented the KKNi and 2017 brands who have implemented KKNi. This is to see whether the application of the curriculum can influence or not on the generic abilities to be studied. As we already know the application of the KKNi-based curriculum in tertiary institutions is highly needed because it can hone the potential of students to become agents who are broad-minded and have skills that are in accordance with the criteria needed in the community, so here the researchers want to see how much influence it has. Financial Accounting is one of the compulsory courses in the Accounting Education Study Program, Faculty of Economics of UNIMED. This course is used as a learning evaluation material in this study with the aim to find out how the influence of Team Based Learning on students' generic abilities after attending the lecture process. This is based on the characteristics of this course which in its implementation is almost 90% carried out with various activities which theoretically should be able to improve various generic skills of students.

Based on the observations conducted by the author, it is known that the average student viewed from the origin of the school class of 2015 was 16.8 consisting of Vocational Schools (16 people), Senior Public High Schools (18 people), Senior Private High Schools (17 people). Meanwhile, the average number of students seen from the origin of the 2017 school year is 15, consisting of Vocational Schools (16 people), Senior Public High Schools (26 people), Senior Private High Schools (20 people).

This research lies on the view of the study conducted by Christensen et al [5] highlighting the implementation of TBL (Team Based Learning) that helps improving educational outcomes and students' ability. Students from introductory accounting courses are organized into permanent strategic teams and work in many activities in teams. TBL as a key pedagogical component of their learning activities. Thus, the objective of the study is set to determine the effect of Team Based Learning on Student Generic Capabilities in Accounting Education Program batches of 2015 and 2017.

Team Based Learning (TBL)

Clair and Chihara (2012) state that "TBL is an effective teaching process that refers to exercises done by students or the application of statistical concepts in class. With assignments given to students, either individual or group assignments, students are motivated to be better prepared to participate in group activities". In addition, Nanes (2014) underlines that the implementation of TBL can enhance the students' critical thinking abilities. Therefore, it can be posited that the use of TBL in the learning process establishes an effective teaching process that refers to the exercises conducted by students or the application of statistical concepts in class. With assignments given to students, both individual or group assignments can improve students' thinking abilities.

In particular, Michael (2008) elaborates successful keys in implementing TBL that are embedded in four important elements as follows:

- 1) *Groups* – groups must be truly formed and managed. The TBL learning requires the teacher to oversee the formation of groups so that they can manage three important things namely:
 - a. Ensuring that the group has adequate resources (group members) in the problem solving process.
 - b. Avoid membership coalitions that may interfere with the development of group cohesiveness.
 - c. Ensure that each group has the opportunity to develop into a learning team.In the implementation of TBL, activities are carried out by students are mostly used for group activities such as completing worksheets or tests given by the teacher. The results of the activities carried out by lecturers can be used to make groups more structured.
- 2) *Accountability* – students must take responsibility for themselves pre-learning in class and in teamwork. When students are less prepared in pre-class learning material, it will hamper the development of team cohesiveness.
 - a. *Feedback* – students must receive feedback frequently and on time.
 - b. *Assignment Design* – group assignments must enhance learning and team development.

The implementation of TBL that influence the students' generic related skills is reflected in the lens of the theory of social constructivism. This theory is a refinement of Piaget's cognitive constructivism that separates learning based on the context. Proposed by Vygotsky in 1978, the social constructivism perspective focuses on shifting the paradigm to make students become active in the learning process (Han and Newell, 2014). The process of understanding knowledge is based on the student himself, how he learns will affect his understanding of the material taught in learning activities. What they do outside of class time is their responsibility and choice but it will affect their learning achievement [6]. The next section discusses about the conceptual aspect of students' generic capabilities.

Generic Competency

Generic competency are very important for students because these abilities are needed by students in developing their careers going forward in accordance with their respective fields, especially in the field of accounting. Generic abilities are not obtained suddenly, but these abilities must be trained continuously for an increase. In general, generic competency is the ability that can be used to learn various concepts and solve various accounting problems, to understand abstract concepts in general, high reasoning abilities are needed and to achieve these high reasoning abilities students are accustomed to learning methods that demand the use of reasoning. Students are trained to use reasoning so in the process of understanding the concepts students not only use empirical experience, but are also accustomed to understanding concepts through reasoning. Generic ability can be said as a new thing that has not been developed or classified by experts. For example, until now there has been no expert formulated in detail and complete about generic abilities, especially in the field of accounting.

Several studies highlight the important of acquiring generic skills from the learning process conducted in higher education institutions. For instance, Kenny et al. [7] stressed that the students' generic capabilities are reflected in their writing, verbal and interpersonal skills that needed for their future professional activities. The Education and Manpower Bureau [8] also posit that generic abilities are the basis for helping students how to study that are developed through learning and teaching in the context of different subjects and areas, and can be transferred into different learning situations.

In particular, there are several previous studies related to research underlining the influence of TBL's implementation on the Generic Competency of students. To name a few, Kenny et al. [7] conducted a research on "Improving the students' tax experience: a team-based learning approach for undergraduate accounting students". This study compared the impact of using two different team learning approaches, namely conventional and Team Based Learning at Australian universities in 2013 and 2014 for undergraduate tax law tutorials with teaching used in 2009 and 2010. The result of research shows that TBL results encourage the development of student groups and skills generic, and this helps entrepreneurs. Furthermore, there are great benefits for lecturers at universities as they add to the joy of teaching. Subsequently, the study conducted by Opdecam & Everaert [6] with a focus on choice-based learning: lecture-based or team learning indicates that team learning has a positive relationship on learning outcomes. If students are faced with a choice between TBL and conventional, the majority of them choose TBL-based learning. Finally, choice-based learning provides satisfaction for students because they can determine for themselves what type of learning is of interest. These results can re-energize ongoing discussions about why and how to involve students in learning activities.

2 Research Method

This causal comparative research is set to investigate the possibility of existing causal relationships, looking for facts that might be the cause through certain data. Comparative causal research is research directed to investigate cause-effect relationships based on observations of the effects that occur and look for factors that cause through the data collected. The approach used in this study is a quantitative approach to the analysis used is statistical analysis with regression analysis. This research was designed in the form of survey research.

Survey research is a study that takes a sample from a population and uses a questionnaire as a primary data collection tool, usually by testing hypotheses.

Based on data from 162 respondents of accounting education program students, the 2015 and 2017 flags through a list of questions (questionnaire) obtained the condition of the respondent based on the origin of the school. The sampling method used in this study was carried out with a simple random sampling technique using the Slovin formula to generate the number of students from both incorporating the KKNi curriculum based (batch of 2017) and non-KKNi curriculum based (batch of 2015). Accordingly, the number of samples determined in this study was extracted using the Slovin formula. The details are presented as follow:

$$n = \frac{N}{1 + Ne^2}$$

n: sample size; N: population; e: critical value (set at 0.05).

For the students Accounting Education Program batch of 2015:

$$n = \frac{N}{1 + Ne^2}$$

$$n = \frac{109}{1 + 109(0,05)^2}$$

$$n = \frac{109}{1 + 109(0,0025)}$$

$$n = 85 \text{ students}$$

$$\frac{85}{109} \times 100 = 78\%$$

Subsequently, for students Accounting Education Program batch of 2017:

$$n = \frac{N}{1 + Ne^2}$$

$$n = \frac{96}{1 + 96(0,05)^2}$$

$$n = \frac{96}{1 + 96(0,0025)}$$

$$n = 77 \text{ students}$$

$$\frac{77}{96} \times 100 = 80\%$$

From the above formula, a total sample of 85 people was obtained with a percentage of the population of 78% for students of the 2015 accounting education program and for students of the 2017 accounting education program, the number of samples was 77 people with a percentage of 80% from the population.

The calculation of sample composition using stratified sampling based on KKNi curriculum-based and non-KKNi curriculum based are proceeded as follow:

- the number of KKNi samples = $(96:205) \times 162 = 76$ respondents.
- the number of non-KKNi samples = $(109: 205) \times 162 = 86$ respondents.

The data obtained from questionnaires were subjected for validity and reliability tests prior conducting for the hypotheses analyses using the linier regression analysis. The linier regression analysis is used to determine the influence of the implementation of TBL on generic capabilities for each students of accounting education program on batches 2015 and

2017 respectively. Accordingly, we also performed the independent sample t-test to determine whether there are significant differences in terms of TBL and generic capabilities between accounting education students from 2015 and 2017 batches.

3 Results and Discussion

Prior conducting the linear regression analysis, the data was tested for normality, linearity, heteroscedasticity that are part of *classical assumption test*. These test series were conducted in order to provide certainty of the generated regression equation that has accuracy in estimation, unbiased and consistent [9].

A good regression model is one that distributes normally. From the result of normality test using Kolmogorov-Smirnov test the significant value is greater than 0.05 indicating a normally distributed data (see Table 1).

Table 1. Normality test : *Kolmogorov-Smirnov*

Batches		Unstandardized Residual
2015	Asymp. Sig. (2-tailed)	0,370
2017	Asymp. Sig.(2-tailed)	0,177

Thus, it can be concluded that the data analyzed, both the 2015 and 2017 batches, came from populations a normal distribution.

The linearity test is used to determine whether the data analyzed is linearly related or not. Linearity test seen from the significance value. Deviation from Linearity > 0.05, the regression model is linear and vice versa.

Table 2. The linearity test of TBL and Generic Competency

Batches			Sig.
2015	TBL * Generic Capabilities	Deviation from Linearity	0,616
2017	TBL * Generic Capabilities	Deviation from Linearity	0,425

Based on Table 2, the value of Deviation from linearity is > 0.05, hence the linear regression can be used to explain the effect of TBL on generic ability. It can also be concluded that the pattern of relations between the two independent and dependent variables forms a straight line in both the 2015 and the 2017 batches respectively.

The heteroscedasticity test aims to test whether in the regression model there is an inequality of variance from the residuals of one observation to another. The heteroscedasticity test can be done with a Levene test, this test is done by regressing the independent variables on the absolute value of the residual. If there is a significant influence of independent variables on the absolute value of the residuals in the regression model there is a heteroscedasticity problem.

Table 3. The Heteroscedasticity test

Batches	Model	Sig.
2015	TBL	0,219
2017	TBL	0,193

Based on the table above, shows that the regression model does not occur symptoms of heteroscedacity. This is because the variable has a probability value greater than 0.05. Thus it can be concluded that the estimation of parameters is considered efficient both the 2015 and 2017 batches because they have a minimum variance so that the error range is constant or also called that the heteroscedacity assumption is met.

3.1 The Result of Linier Regression Analysis

Based on classical assumption tests above showing there are no issue among normality, linierity and heteroscedasticity therefore the linier regression test can be performed. The result of the regression linier test are shown in the following table:

Table 4. Linier Regression Test Output for Respondents from batch 2015

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	94,927	1	94,927	6,916	,010 ^b
	Residual	1029,385	75	13,725		
	Total	1124,312	76			

a. Dependent Variable: Generic Competency
b. Predictors: (Constant), TBL

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients		
1	(Constant)	26,190	7,313		3,582	,001
	TBL	1,177	,448	,291	2,630	,010

a. Dependent Variable: Generic Competency

Table 5. Linier Regression Test Output for Respondents from batch 2017

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	402,314	1	402,314	41,956	,000 ^b
	Residual	795,875	83	9,589		
	Total	1198,188	84			

a. Dependent Variable: Generic Competency
b. Predictors: (Constant), TBL

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients		
1	(Constant)	19,101	4,380		4,361	,000
	TBL	1,781	,275	,579	6,477	,000

a. Dependent Variable: Generic Competency

Based on the data set provided in the Table 4 and Table 5 for accounting education students from batches of 2015 and 2017 respectively, the significance value for both respondents are less than 0.05. The results indicate that there positive and significant influence of the implementation of TBL on generic ability for both the 2015 and 2017 respectively. The results also support the Everaert et al. [11] and the social constructivism theory in general.

In particular, in term of determinant coefficients for respondents on the batch of 2015, based on the output table 6 below, indicates the coefficient of determination or R square is equal to 0.336. R square value of 0.084 is obtained from the square of the correlation coefficient or "R", which is $0.291 \times 0.291 = 0.084$. The magnitude of the coefficient of determination (R square) is 0.336 or equal to 8.4%. This number implies that the TBL variable influences the Generic Capacity variable by 33.6%.

Table 6. The Coefficient Determination for Respondents batch of 2015

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,291 ^a	,084	,072	3,70474

a. Predictors: (Constant), TBL

Table 7. The Coefficient Determination for Respondents batch of 2017

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,579 ^a	,336	,328	3,09659

Accordingly for respondents of the batch 2017, based on the output table 7 above, it is known that the coefficient of determination or R square is 0.336. R square value of 0.336 is obtained from the square of the correlation coefficient or "R", which is $0.579 \times 0.579 = 0.336$. The magnitude of the coefficient of determination (R square) is 0.336 or equal to 33.6%. This number implies that the TBL variable influences the Generic Capacity variable by 33.6%. The result of the coefficient determination also implies that the the implementatiof of TBL is not the only predictor for the students' generic ability. Other factors include parenting, peer participation and family environment.

3.2 The Results of Independent Sample t-tests for TBL and Generic Competency

Based on the "Group Statistics" output table below, it is known that the amount of TBL data for the 2015 batch is 85 students, while for the 2017 batch is 77 students. The average TBL or Mean value for the 2015 batch is 16.36, while for the 2017 batch is 16.31.

Table 8. Group Statistics

	Batch	N	Mean	Std. Deviation	Std. Mean Error
TBL	2015	85	16,36	0,949	,103
	2017	77	16,31	0,950	,108

Thus, in descriptive statistics it can be concluded that there is a difference in the average TBL between the 2015 and the 2017 batches. Furthermore, to prove whether the difference is significant (real) or not, it is necessary to interpret the output of the "Independent Samples Test" below.

Table 9. Independent Sample t-tes for TBL between respondents batches 2015 and 2017

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Team Based Learning	Equal variances assumed	,591	,443	,884	160	,037	-9,449	,6238	-,6803	1,7834
	Equal variances not assumed			,887	159,702	,038	-9,449	,6220	-,6769	1,7800

Based on the above output, Sig. Levene's Test for Equality of Variance is $0.443 > 0.05$, so it can be interpreted that the data variance between 2015 and 2017 batches can be homogeneous or the same (Sujarweni, 2014). The estimation of the Independent Samples Test output table above is based on the values contained in the "Equal variances assumed" table. Based on the "Independent Samples Test" output table in the "Equal variances assumed" section, the Sig. (2-tailed) of $0.037 < 0.05$, then as the basis for decision making in the independent sample t-test it can be concluded that H_0 is rejected and H_1 is accepted. Thus it can be concluded that there is a significant (real) difference between the average TBL in respondents of batch 2015 and the 2017 batch.

In particular for the comparison of the generic abilities performance between respondents in batches 2015 and 2017, it is known that the total number of Generic Ability data for the 2015 batch is 85 students, while for the 2017 batch is 77 students. The average value of Generic Capability or Mean for the 2015 batch is 45,941, while for the 2017 batch is 45,390.

Table 10. Group Statistics for Generic Competency between respondents of 2015 and 2017 batches

	Batch	N	Mean	Std. Deviation	Std. Error Mean
Generic Competency	2015	85	45,941	4,0689	,4413
	2017	77	55,390	3,8462	,4383

Thus, in descriptive statistics it can be concluded that there are differences in the average Generic Ability between respondents from 2015 and 2017 batches. Furthermore, to prove whether the difference is significant (real) or not, it is necessary to interpret the output of the "Independent Samples Test" below.

Table 11. The Output of Independent Sample t-test between respondents of 2015 and 2017 batches

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2- tailed)	Mean Differ- ence	Std. Error Differ- ence	95% Interval Difference Lower	Confidence of the Difference Upper
Generic Compete ncy	Equal variances assumed	,591	,443	,884	160	,037	-9,449	,6238	-,6803	-1,7834
	Equal variances not assumed			,887	159,702	,038	-9,449	,6220	-,6769	-1,7800

4 Conclusion

Based on the results of research that has been carried out regarding the effect of TBL on the generic competency of students in the accounting education study program of 2015 and 2017 that indicators used to determine the generic related-abilities, including writing skills, verbal and interpersonal abilities. Generally, it can be concluded that there is positive and significance influence of the implementation of TBL on generic abilities in the 2015 and 2017 batches. The magnitude of the coefficient of determination (R square) is 0.336 or equal to 33.6%. For respondents in batch of 2017 the value of sig. $0.010 > 0.05$ and the coefficient of determination (R square) is 0.084 or equal to 8.4%. The generic competency is not the only factor that can improve the learning of Team Based Learning for students of accounting education in 2015 and 2017 batches.

Based on the Independent Sample t-test comparison test between 2015 and 2017 batches, it can be concluded that there is a difference in the average TBL and generic ability between respondents in batches of 2015 and 2017. This can occurred due to there are more 2015 samples ie 85 people compared to the 2017 cane which only numbered 77 people. Then it could also be caused by the seriousness of the respondents in answering the questions listed in the questionnaire. While the results of the study were seen from the seriousness of the respondents participating in answering each question.

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